REMARKS/ARGUMENTS

Reconsideration of the present application is respectfully requested. With this amendment, claims 1, 2, 12, 13, 14-16, 20, 21, and 27-29 are pending.

Claims 3-11, 17-19, 22-26, and 30-32 are cancelled as drawn to non-elected inventions.

Claim Rejections - 35 USC §103

Claims 1, 2, 12, 13, 20, and 21 are rejected under 35 USC §103(a) as being unpatentable over Saunders, *et. al.* (US Patent No. 6,977, 269).

The Office Action states: "Saunders, *et. al.* disclose a method of improving the tissue quality of an animal - including the ruminant cattle of instant claims 12 and 13 ... by feeding the animal vitamin E.... While Saunders *et. al.* do not explicitly teach all the instant claimed concentration of tocotrienols, it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine suitable concentration through routine or manipulative experimentation to obtain the best possible results, as these are variable parameters attainable within the art.... Applicants have not demonstrated any unexpected or unusual results, which accrue from the instant concentration."

The Office Action concludes: "It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use tocotrienols as a method of improving cattle meat quality, as taught be Saunders, *et. al.* One of ordinary skill in the art at the time the invention was made would have been motivated to add tocotrienols to an animal feed for the beneficial effects of improved meat quality, as explained by Saunders, *et. al.*"

The rejection is respectfully traversed.

As the instant specification, knowledge of one of skill in the art, and the cited reference make clear, the words "Vitamin E", "tocopherol", and "tocotrienol" are not analogous terms.

"Vitamin E" is an umbrella expression for "...a class of lipid-soluble anti-oxidants that includes α, β,γ, and δ-tocopherols and α, β, γ, and δ-tocotrienols.... Vitamin E is more appropriately defined chemically as alpha-tocopherol." (See Eenennaam et al, paragraph [0004]). Both the instant specification and the cited reference differentiate between the tocopherols and tocotrienols e.g.: "...vitamin E in the form of alpha-tocopherol acetate...." (See Saunders et. al., col.1, lines 41-41, and the instant specification paragraph [0008]).

Saunders et. al. teaches the danger in assuming the efficacy of any particular Vitamin E anti-oxidant compound without experimental validation. Saunders et. al. recites in col 3, lines 49-51 and lines 58-61: "Gamma-tocopherol (*y*-tocopherol) has heretofore been believed to be a weaker anti-oxidant than alpha-tocopherol (α-tocopherol) on a per unit mass basis and thus, less effective as a dietary supplement for animals.... Applicants have found that, surprisingly, supplementation of animal diets with gamma-tocopherol results in statistically significant improvements in certain tissue quality parameters."

Tocotrienols are not even mentioned in Saunders *et. al.* and so could not have motivated one of skill in the art to add tocotrienols to an animal feed for the beneficial effects of improved meat quality as recited in the Office Action. Accordingly, claims 1, 2, 12, 13, 14-16, 20, 21, and 27-29 are not obvious in view of the cited art.

Claims 1, 2, 12, 13, 14-16, 20, 21, and 27-29 are rejected under 35 USC 103(a) as being unpatentable over Saunders, *et. al.* in view of Eenennaam *et. al.*

The Office Action states: "Eenennaam, *et. al.* teach transgenic plants modified to express polypeptides of the tocopherol biosynthesis pathway.... The disclosure recited transgenic plants modified to have elevated mixed tocotrienol levels (see paragraphs 217-220). The plant may be the cereal grain crop corn of instant claims 14, 15, 27, and 28 (see paragraph 211)."

The Office Action continues: "The Eenennaam *et. al.* reference teaches an animal diet comprising mixed tocotrienols comprising oil from a plant that has been genetically modified to have elevated mixed tocotrienol levels, as recited in instant claims 16 and 29.

The Office Action concludes: "It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use tocotrienols as a method of improving cattle meat quality, as taught by Saunders, *et. al.* in view of Eenennaam, *et. al.* One of ordinary skill in the art at the time the invention was made would have been motivated to add tocotrienols to an animal feed for the beneficial effects of improved meat quality, as explained by Saunders, *et. al.*"

The rejection is respectfully traversed.

The disclosure of Saunders *et. al.*, as discussed above, does not teach the use of tocotrienols in feed to improve meat quality.

Eenennaam *et. al.* does not present reasoning, citations, or evidence that the transgenic plants disclosed therein contain elevated levels of tocotrienols. The claims and sections of the cited specification that disclose elevated levels of tocotrienols are a mere laundry list of desired phenotypes. Eenennaam *et al* discloses data showing elevated levels of *tocopherols* in the disclosed transgenic plants but no data regarding elevated levels of *tocotrienols.* It being a routine matter to also assay for elevated tocotrienols, it can be inferred that the transgenic plants of Eenennaam *et. al.* did not have elevated levels of tocotrienols.

Therefore, one of skill in the art could not use Saunders, *et al* or Eenennaam *et al*, alone or combined, with any reasonable expectation of success to produce the present invention. Accordingly, claims 1, 2, 12, 13, 14-16, 20, 21, and 27-29 are not obvious in view of the cited art.

In view of the above remarks, it is submitted that the rejections under 35 USC §103(a) should be withdrawn.

Double Patenting

Claims 1, 2, 12, 13, 14-16, 20, 21, and 27-29 are rejected on the ground of nonstatutory obviousness-type double patenting. The claims are rejected as unpatentable over claims 1-38 of US Patent No. 6,977,269 ('269).

The Office Action states: "Although the conflicting claims are not identical, they are not patentable distinct from each other because '269 claims a method of improving the tissue quality of an animal, including ruminant animals, using a tocopherol. See claims 1 and 8."

The rejection is respectfully traversed.

As the instant specification, knowledge of one of skill in the art, and the cited reference make clear, the words "Vitamin E", "tocopherol", and "tocotrienol" are not analogous terms.

The '269 patent teaches the use of a specific compound: gamma-tocopherol (γ tocopherol) added to animal diets to improve meat quality. The '269 patent does not teach or suggest the use of tocotrienols in animal feed to improve meat quality. The '269 patent is patentably distinct from the instant application. Accordingly, claims 1, 2, 12, 13, 14-16, 20, 21, and 27-29 are not obvious in view of the cited art.

Claims 1, 2, 12, 13, 14-16, 20, 21, and 27-29 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting. The claims are provisionally rejected as unpatentable over claims 1-38 of copending Application No. 11/153,462 ('462).

The Office Action states: "Although the conflicting claims are not identical, they are not patentable distinct from each other because '462 claims a method of improving the tissue quality of an animal, including cattle, using a tocopherol. See claims 1 and 8."

The rejection is respectfully traversed

Application number 11/153,462 ('462) is a continuation of the '269 patent cited above. As there is no additional disclosure in this application from the parent, the same points regarding the '269 patent apply. Accordingly, claims 1, 2, 12, 13, 14-16, 20, 21, and 27-29 are not obvious in view of the cited art.

Claims 1, 2, 12, 13, 14-16, 20, 21, and 27-29 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting. The claims are provisionally rejected as unpatentable over claims 1-27 of copending Application No. 11/153,463 ('463).

The Office Action states: "Although the conflicting claims are not identical, they are not patentable distinct from each other because '463 claims a method of improving the tissue quality of an animal, including ruminant animals, using mixed tocotrienols. See claims 1, 12, and 19."

The rejection is respectfully traversed.

The '463 application does not disclose or claim an animal diet using mixed tocotrienols alone. The '463 application discloses and claims an animal diet with a mix of oleic acid and selected tocols ("selected tocols" being defined as: "...one or more of the tocotrienols (TT), gamma-tocopherol (GT), or a mixture of at least one tocotrienol and gamma-tocopherol. The selected tocols may contain other components, including other tocopherols." See page 3, lines 5-8) As such, the '463 application is patentably distinct from the instant application.

Accordingly, claims 1, 2, 12, 13, 14-16, 20, 21, and 27-29 are not obvious in view of the cited art.

Claims 1, 2, 12, 13, 14-16, 20, 21, and 27-29 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting. The claims are provisionally rejected as unpatentable over claims 1-20 of copending Application No. 11/530,075 ('075).

The Office Action states: "Although the conflicting claims are not identical, they are not patentable distinct from each other because '075 claims a method of improving the tissue quality of an animal, including ruminant animals, using mixed tocotrienols. See claims 1, 10, and 13."

The rejection is respectfully traversed.

The '075 application does not disclose or claim an animal diet using mixed tocotrienols alone. The '075 application teaches: "...use of a high-oleic and high-tocol animal diet in combination with an additional non-tocol antioxidant such as rosemary extract to achieve a greater improvement in meat oxidative stability than can be achieved with dietary high-oleic and high-tocol or the additional non-tocol antioxidant alone." (see page 1, lines 15-20). As such, the '075 application is patentably distinct from the instant application.

Accordingly, claims 1, 2, 12, 13, 14-16, 20, 21, and 27-29 are not obvious in view of the cited art.

In view of the above remarks, it is submitted that the rejections under nonstatutory obviousness-type double patenting should be withdrawn.

CONCLUSION

In view of the above amendments and remarks, it is submitted that the rejections of the claims under USC 103(a) and nonstatutory obviousness-type double patenting are overcome. It is respectfully submitted that this application is now in condition for allowance.

If in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned.

Respectfully submitted,

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